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Testimony of Connecticut Fund for the Environment

Before the **Energy & Technology Committee**

In Support of
Raised Bill 5385, AN ACT CONCERNING ENERGY RETROFITS FOR CERTAIN BUILDINGS AND THE DISCLOSURE OF THE ENERGY EFFICIENCY OF CERTAIN BUILDINGS

Submitted by
Charles J. Rothenberger, Staff Attorney
March 8, 2012

Connecticut Fund for the Environment ("CFE") is a non-profit environmental organization with over 5,400 members statewide. The mission of CFE is to protect and improve the land, air and water of Connecticut and Long Island Sound. For more than twenty-five years, CFE has used legal and scientific expertise to bring people together to achieve results that benefit our environment for current and future generations.

Senator Fonfara, Representative Nardello and members of the Committee, Connecticut Fund for the Environment is pleased to have the opportunity to testify **in support of** Raised Bill No. 5385, An Act Concerning Energy Retrofits For Certain Buildings And The Disclosure Of The Energy Efficiency Of Certain Buildings.

Energy disclosure polices further several important policy goals. First, they can serve as an important way to determine whether a building is in compliance with the state energy code. While Connecticut has taken steps to update its base energy code to conform to the latest national model code, code enforcement remains a challenge.

Disclosure policies are also an important element in encouraging the valuation of energy efficiency in real estate transactions. Measurement and disclosure polices can play a critical role in moving the real estate market to recognize and value the energy efficiency of buildings. The results of an energy audit and the practical recommendations for cost-effective energy saving improvements contained in such an audit are important facts for any potential homeowner to have. Disclosing the results of an energy audit (1) provides an incentive to a seller to invest in prudent improvements to enhance the marketability of the property and (2) provides the information necessary for a purchaser to make cost-effective energy improvements at the most convenient time – before they are settled.

On the residential side, performance data from efficiency financing programs is showing that significant improvements can be done at relatively little cost and that these improvements more than pay for themselves in terms of energy savings.

Connecticut has a significant amount of older housing stock that falls well below modern standards for energy efficiency, resulting in homes that are more expensive than necessary to heat in the winter and cool in the summer. 84% of the state's housing stock was built before 1980 and 45% was built before 1960. Homes built prior to the adoption of energy codes use approximately 23 percent more energy per square foot than homes built after 1990.[1] Frequently, building envelopes are not insulated, windows provide little thermal benefit and heating and cooling systems do not perform optimally. These factors can significantly increase the operating expenses of a property, as well as contributing to impaired air quality and increased emissions of global warming pollutants as a result of increased combustion of fossil fuels.

In the commercial sector, poor energy performance was underscored in the recently released report from the Commission On enhancing Agency Outcomes. That report benchmarked 108 state facilities using EPA's Energy Portfolio Manager. Less than 25 percent of the buildings surveyed received scores reflecting that they were energy efficient and more than half (59 facilities) received scores indicating that they were "extremely energy inefficient." While that report concerned only state owned buildings, there is little reason to believe that a survey of the private commercial sector would produce different results.

There is a growing body of evidence that energy efficient commercial buildings command a price premium when sold and enjoy higher occupancy and rental rates. Regular benchmarking can inform building owners about opportunities to cost-effectively improve the energy performance of their buildings. If individual owners are not in the position to do so, publicly available data on building energy performance can provide the necessary information that will allow Energy Service Companies (ESCOs) to directly market to building owners with the largest energy reduction opportunities.

The timing for such a proposal could not better. First, the state is poised to greatly expand its energy efficiency programs through its Conservation and Load Management and Integrated Resource Planning processes, creating more opportunities for professionally managed, low-cost residential energy audits and incentives for efficiency improvements. In 2010, the efficiency program served nearly 50,000 Connecticut residents through its residential Home Energy Solutions program, saving them more than $16 million in annual energy costs. The CEEF's commercial programs served more than 4,000 customers, producing annual savings of $24 million. The programs' budget (and potential reach) is slated to double for 2012.

Second, the state's energy efficiency programs successfully completed a year-long efficiency financing pilot, and has now established a permanent efficiency financing program administered by the Connecticut Housing Investment Fund (CHIF). This financing program offers low-interest loans (from 2.99% to 4.99%, with some measures qualifying for 0% financing) to make energy efficiency improvements to residential property.

[1] "Residential Energy Efficiency and the American Clean Energy and Security Act", David Hoppock and Jonas Monast (Duke University July 2009).

Providing the transparency and information necessary to allow the market to appropriately value energy efficiency in real estate transactions will help move properties, since lowering the operating costs a home (i.e., the energy costs) may help to temper the impacts of recent mortgage requirements requiring higher down-payments in a restricted credit environment. A 2008 consumer survey conducted by the U.S. Green Building Council and McGraw Hill Construction found that 70 percent of homebuyers are more inclined to buy a green home over a conventional home in a down market and that improving the energy and environmental performance of their home was the leading reason that homeowners invested in home improvements.[2]

Including the disclosure of energy efficiency in real estate transactions and benchmarking the state's commercial buildings make sense for consumers, for the market and for Connecticut's economy moving forward. Accordingly, **we urge the Committee to approve Raised Bill 5385.**

Thank you for the opportunity to comment.

[2] "Home Buyers Increasingly Thinking about Buying Green" (July 24, 2008). 42 percent of respondents cited this as their primary reason, compared to 34 percent who cited improving comfort and 24 percent who cited improving appearance

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ENCOURAGING ENERGY EFFICIENCY UPGRADES THROUGH BUILDING ENERGY DISCLOSURE

Building retrofits are "the nearest thing [America's] got to a free lunch" - President Bill Clinton, December 2011.[1]

Executive Summary

Connecticut's citizens are spending far more than necessary on monthly energy bills as a result of the state's large stock of aging, energy-wasting buildings. A study by McKinsey and Co. found that the United States wastes $130 billion a year on energy as a result of inefficient buildings and appliances. The lack of adequate insulation, leaking building envelopes and inefficient heating, cooling and lighting systems are all existing problems that can be solved through modest, cost-effective investments that begin to pay back building owners immediately through lower energy bills. But in order to capture these cost-savings, we first have to make building owners aware of the opportunities.

States and municipalities around the country are recognizing the value of providing transparent building energy performance information to markets in order to incorporate energy performance data into building valuation and motivate investment. Policies that require the measurement and disclosure of a building's energy performance can play a critical role in (1) raising the awareness of building owners and operators regarding the opportunities for cost-effective efficiency improvements, (2) reducing fuel costs for homeowners and owners/operators of commercial buildings by identifying energy saving opportunities and (3) reducing polluting air emissions from the combustion of fossil fuels.

Although the characteristics of large commercial buildings and single family homes are quite different, both types of structures would benefit from energy measurement and disclosure programs that are specifically tailored to their particular market segment. Operational measurement tools, which provide data on actual energy consumption and mechanical systems, such as the EPA's Energy Star Portfolio Manager, provide valuable feedback to commercial building owners and operators that can guide building management practices and investment decisions. Low-cost asset-based energy evaluations that focus on the physical characteristics of a building, such as the recently piloted federal Home Energy Score, provide homeowners with the information necessary to reduce their energy expenditures and increase the value of their major financial asset –their home.

[1] Interview with Judy Woodruff, PBS Newshour. Airdate December 2, 2011. Interview and transcript available at http://www.pbs.org/newshour/bb/politics/july-dec11/clinton_12-02.html.

Ramping up Connecticut's investment in energy efficiency measures over 15 years to a maximum annual budget of $432 million (across all fuel types) would increase the state's annual Gross Domestic Product by up to $2.4 billion and create as many as 17,000 additional jobs annually in the state.[2]

Investing in energy efficiency provides benefits to the individual building owner as well as boosting the overall state economy. Energy efficient homes sell for up to 12 percent more than inefficient homes and they sell more quickly. Efficient commercial buildings command a price premium of between 16 percent and 31 percent and a rent premium of 3 percent to 5 percent.

In order to reap these benefits, Connecticut should adopt a statewide energy disclosure policy for commercial and residential buildings. These policies have particular potential in Connecticut because of the state's established energy programs. Connecticut has one of the best energy efficiency audit programs in the nation through Home Energy Solutions and has recently established an efficiency financing program with a utility on-bill repayment option. Annual funding for the state's energy efficiency programs is slated to double (from $106 million to $219 million). The state is also in the process of adopting the PACE financing mechanism and establishing uniform procedures for public contracting with Energy Performance Service Companies (ESCOs), which will attract private capital in to the state's energy efficiency market.

Policy Recommendations:

• Require energy benchmarking, using the EPA Portfolio Manager, for all commercial buildings greater than 10,000 square feet.

• Adopt regulations for evaluating and disclosing the energy performance of residential and commercial buildings prior to the sale of such buildings.

• Require the disclosure of annual energy use for rental units at time of lease.

[2] Environment Northeast, Energy Efficiency in Connecticut: Engine of Economic Growth (October 2009); available at http://www.env-ne.org/public/resources/pdf/ENE_EE_ECON_CT_FINAL.pdfp. This is consistent with a study done by the Political Economy Research Institute at the University of Massachusetts at Amherst that found 17.36 jobs created for every $1 million investment in energy efficiency (compared to 6.86 for the coal industry and 5.18 jobs for the oil and natural gas industries.

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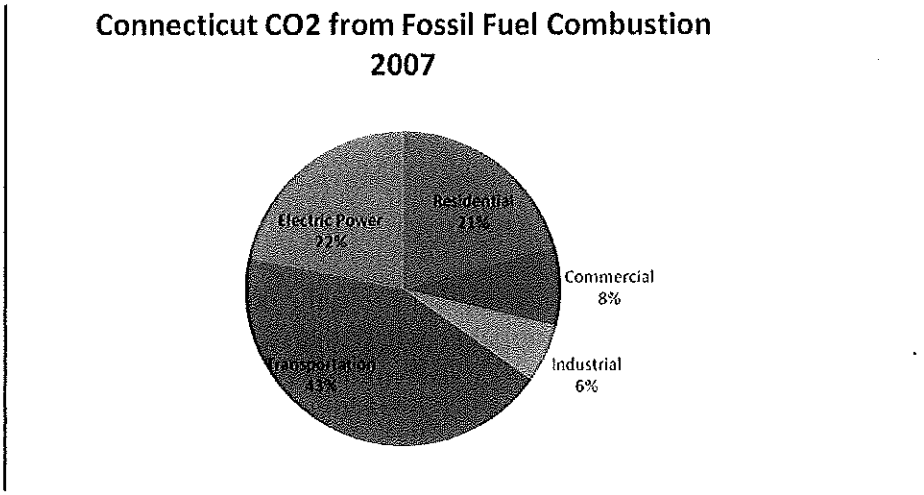
Introduction

Connecticut has been recognized as a national leader for its energy efficiency programs. But more can and must be done if we are to achieve significant reductions in the energy use of the state's existing stock of residential and commercial properties and deliver deep efficiency retrofits to consumers. If Connecticut is serious about reducing energy costs, then it must make a commitment to energy efficiency its number one priority.

Connecticut's energy future must consider not only energy prices, but the public health and environmental consequences of the choices that we make. Fortunately, the economic, health and environmental factors all point to the same solution. By investing in energy efficiency, we can lower energy costs, stimulate the economy and reduce air pollution in the state.

The opportunity for dramatic improvements in the energy efficiency of residential and commercial buildings in the state is clear. A study by McKinsey and Co. found that the United States wastes $130 billion a year on energy as a result of inefficient buildings and appliances.[3] Connecticut's building stock is relatively old and much of it was built prior to the adoption of any building energy code. 84 percent of the state's housing stock was built before 1980 and 45 percent was built before 1960. Given that these residential buildings alone account for more than 20% of the state's greenhouse gas emissions, we must improve their energy performance if we wish to reduce emissions from the building sector in a meaningful way. Adding the commercial and industrial sectors brings the total building sector emissions to 35 percent of the total.



Source: Connecticut 2009 GHG Inventory

Energy efficiency retrofits of residential and commercial properties are an extremely cost effective carbon reduction strategy. If building owners improved the efficiency of their buildings by just 10 percent, by 2015 the country could reduce GHG emissions by more than 20 MMTCO2 e, equivalent to the emissions of about 15 million vehicles (based on data from the U.S Dept. of Energy's Energy Information Administration 2003).

Increasing our commitment to energy efficiency can provide a significant boost to the state's economy, not only by keeping consumer dollars in the state rather than expending them on energy imports, but also through the direct stimulant of job creation. Efficiency programs require

[3] "A Star Turn for Energy Efficiency Jobs" (Center for American Progress, September 2011).

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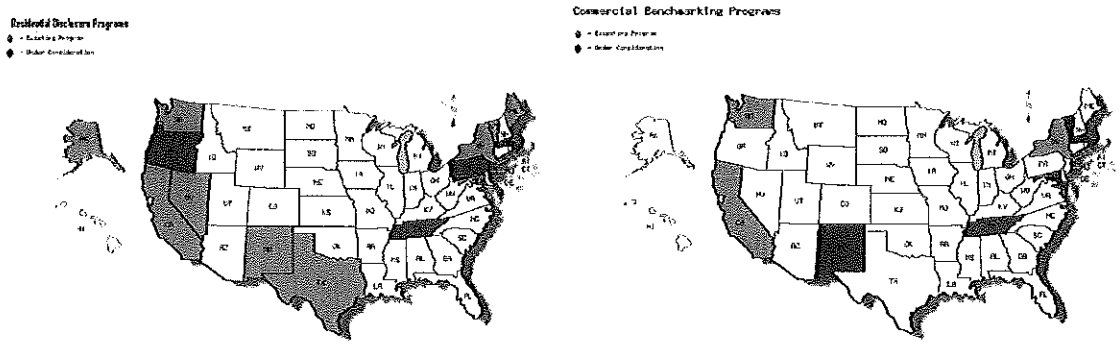
and create jobs for skilled and experienced engineers and technicians and installers to identify an implement energy saving opportunities and strategies.

Building Energy Rating and Disclosure Policies

Building energy rating programs have been around for more than a decade and are firmly established in more than 30 countries. In the U.S., such policies are being adopted by a growing number of states and municipalities. Commercial energy disclosure polices are in place in Austin, Texas, the District of Columbia, New York City, Portland, Oregon and the states of California and Washington. Residential disclosure policies have been adopted to varying degrees in Alaska, Kansas, Maine, Maryland, Nevada, New York state, New Mexico, South Dakota, Texas and Vermont. Massachusetts, Oregon and Washington have begun implementation of residential and commercial audit and disclosure pilot programs, and a federal Home Energy Score program was piloted in ten states last year. Bills establishing residential and commercial energy efficiency disclosure policies were introduced in more than a dozen states in 2011.



<u>Why Building Energy Disclosure Has Gained So Much Attention</u>

Energy disclosure polices further several important policy goals. First, they can serve as an important way to determine whether a building is in compliance with the state energy code. While Connecticut has taken steps to update its base energy code to conform to the latest national model code, code enforcement remains a challenge.

Second, building energy disclosure makes building owners and purchasers aware of both the current performance of a particular building as well as the opportunities for improving that performance. Modest, cost-effective investments to improve energy efficiency can begin to immediately pay for themselves through reduced energy bills and increased property value.

Finally, disclosure policies are an important element in encouraging the valuation of energy efficiency in real estate transactions. Measurement and disclosure polices can play a critical role in moving the real estate market to recognize and value the energy efficiency of buildings, and in encouraging sellers and buyers to make cost-effective energy efficiency investments in their property at the time of transfer.

Moreover, energy rating and disclosure provides incentives for builders, homeowners and buyers to make cost-effective investments in their property to improve the efficiency of the

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building. On the residential side, performance data from efficiency financing programs are showing that significant improvements can be done at relatively little cost and that these improvements more than pay for themselves in terms of energy savings. Moreover data from both the residential and commercial sectors indicates that energy efficient buildings can command a price premium, providing an independent incentive for an owner to make improvements.

In order to be successful, (1) such polices must be mandatory so that consumers can compare all properties that they might be considering and (2) the disclosure must be provided early enough in the process to be able to influence the transaction, preferably at the time of listing.[4] Regular benchmarking can inform building owners about opportunities to cost-effectively improve the energy performance of their buildings. If individual owners are not in the position to do so, publicly available data on building energy performance can provide the necessary information that will allow Energy Service Companies (ESCOs) to directly market to building owners with the largest energy reduction opportunities.[5]

Conclusion

In addition to the clear economic benefits of reducing our energy use and decreasing costs to consumers, these programs can significantly reduce emissions of greenhouse gases and other air pollutants such as NOx and Sulfur Dioxide and improve the state's air quality and the quality of life of our citizens.

[4] Valuing Building Energy Efficiency Through Disclosure and Upgrade Policies; Dunsky Energy Consulting, Northeast energy Efficiency Partnerships (November 2009), pp. 23-24.

[5] See Press Release: "BOMA International - Clinton Climate Initiative Building Energy Retrofit Program Overview"" available at: http://www.boma.org/SiteCollectionDocuments/Org/Docs/About%20BOMA/BEPC/BEPC%20Overview%20020909.pdf.

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INCREASING ENERGY EFFICIENCY THROUGH BENCHMARKING COMMERCIAL BUILDINGS

Commercial energy benchmarking is a widely accepted, low-cost approach to managing and reducing energy use in commercial buildings. Benchmarking is an important tool that provides building performance feedback to owners and operators that can guide investment decisions. When energy efficiency information is available to building owners and tenants, the market can respond with valuations that reflect energy costs. Owners can then determine the appropriate level of cost-effective investment to improve a building's performance. EPA Portfolio Manager can help to guide these decisions by assessing the energy savings from proposed upgrades to the building or facility.

Connecticut is well poised to reap the benefits of a comprehensive energy benchmarking program. In the United States, at least 40 percent of commercial buildings are already 30 years old or older, constructed at a time when the country was just beginning to recognize the value of energy efficiency in the wake of the energy crises of the late 1970s. The commercial sector accounts for 8 percent of Connecticut's greenhouse gas emissions, or 3.688 MMTCO2e.[6]

Nationwide, energy costs have risen significantly in the last several years. This increase has been felt particularly in the Northeast, an area of the country dependent on imported fuel sources. These increases can have a huge impact on building expenses, where energy accounts for a third of a building's total expenses, with much of that energy simply wasted.[7]

In Connecticut, the poor energy performance of the state's commercial building stock was underscored in the 2010 report from the Commission on Enhancing Agency Outcomes. That report benchmarked 108 state facilities using EPA's Energy Portfolio Manager. Less than 25 percent of the buildings surveyed received scores reflecting that they were energy efficient and more than half (59 facilities) received scores indicating that they were "extremely energy inefficient." While that report concerned only state owned buildings, there is little reason to believe that a survey of the private commercial sector would produce different results.

EPA Portfolio Manager Benchmarking: Mechanics of the Program

Benchmarking is the process of assessing a building's energy use relative to other buildings with similar characteristics. The primary commercial benchmarking tool in the United States is EPA's Portfolio Manager, an online tool that is currently extensively used by commercial building owners and operators. Since its introduction in 2000, Portfolio Manager has been used to evaluate more than 13 billion square feet of nonresidential building space.[8]

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[6] 2009 Connecticut GHG Inventory

[7] http://www.energystar.gov/ia/business/challenge/learn_more/CommercialRealEstate.pdf?64eb-b1ad

[8] U.S. EPA, Energy Star Snapshot: Measuring Progress in the Commercial and Industrial Sectors.

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Portfolio Manager provides an energy performance score from "1" to "100" for a range of nonresidential building types:

- Banks/ Financial institutions
- Courthouses
- Data Centers
- Dormitories
- Hospitals
- Hotels
- Houses of Worship
- K-12 Schools
- Medical Offices
- Office Buildings
- Retail Stores
- Supermarkets
- Warehouses
- Wastewater Treatment Plants

Building managers simply register their building online and input the requested data regarding energy usage and the physical and operating characteristics of the building, such as the size, location, number of occupants, number of PCs and operating hours.

Buildings must be at least 5,000 square feet to use the Portfolio Manager tool and buildings that receive a score of 75 or greater are eligible to receive an Energy Star designation.[9]

Benchmarking through the EPA Portfolio Manager tool does not involve any significant cost.[10] The tool itself is available for free online. Conversations with individuals and firms that work with building operators and that perform benchmarking services indicate that the biggest obstacle faced is not cost, but acquiring energy data from the utilities.

In Connecticut, we have already laid the groundwork to begin a comprehensive benchmarking program. Public Act 11-80 directs the electric and natural gas utilities to maintain records of energy consumption data for all non-residential buildings for which they provide service in a format that is compatible with EPA's Energy Star Portfolio Manager. The utilities are also required to provide aggregate town customer usage data to the legislative body of any town that requests it.

The only cost to the state would be maintaining a website that could be accessed to view the energy scores of benchmarked buildings. That will likely not be a task that the state has to undertake, however, since the U.S. Department of Energy is currently developing a national database web portal that will serve as a centralized repository for energy benchmarking scores.

[9] Data must be reviewed by licensed professional engineer or registered architect to be eligible for the Energy Star designation.

[10] The lack of significant cost to operational energy benchmarking is in stark contrast to the costs of performing an asset-based energy audit for a large commercial building, which can run into the tens of thousands of dollars per building. "Comparative Analysis of U.S. and China Building Energy Rating and Labeling Systems" (NRDC. MOHURD, Institute for Market Transformation)

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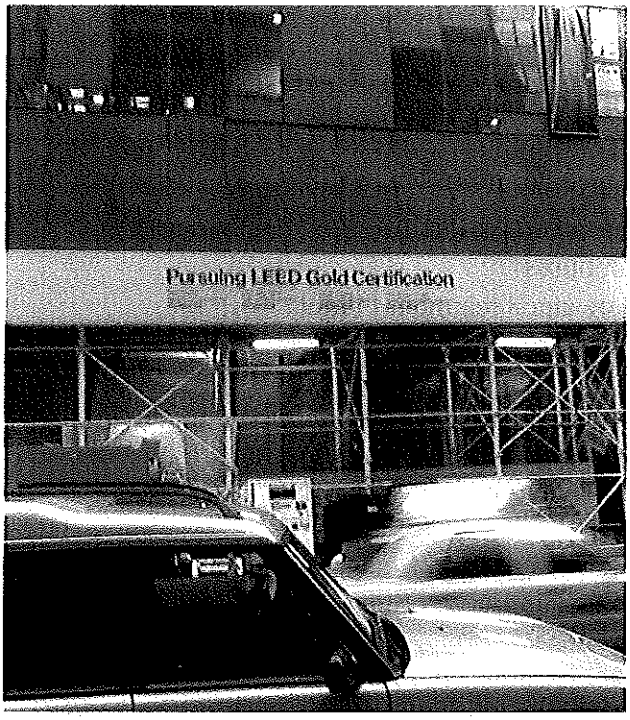
Energy and Economic Benefits



Benchmarking of commercial properties presents significant opportunities for economic benefits to building owners and operators, as well as for the economy as a whole. Benchmarking provides valuable data to building operators about opportunities for improving the building's efficiency and reducing operating costs. According to Energy Star, "energy represents 30 percent of the typical office building's costs and is a property's single largest operating expense."[11]

Recent analysis indicates that if 10 percent of commercial buildings in the state were retrofitted per year and each retrofit reduced electricity demand by 20 percent, Connecticut would reduce its annual electricity usage by 273 million kWh.[12] The annual energy savings to building owners would be more than $43 million. As with other energy savings, this is money that will stay in the local economy, rather than being sent out of state to pay for imported energy. The associated annual greenhouse gas emission reductions would be 0.11 MMTCO2. Over ten years, that would achieve nearly a quarter of the reduction needed to hit our 2020 target, while creating approximately 12,000 jobs and increasing state and local tax revenues by approximately $6.5 million.

In addition to the direct energy savings, studies have found that energy efficiency labeling of commercial properties increases the market value in both the rental and sales transactions. Two studies, both conducted in 2009, found an average sales price premium of between 16 percent

[11] http://www.energystar.gov/ia/business/challenge/learn_more/CommercialRealEstate.pdf?64eb-b1ad
[12] Buonicore Partners, "Connecticut PACE Opportunity" (2011 Draft analysis).

and 31 percent for Energy Star rated commercial buildings.[13] They also found an average rent premium of 3 percent to 5 percent for Energy Star buildings.[14]

Opportunities for financial assistance for upgrades

State and Federal Programs

The Connecticut Energy Efficiency Fund's (CEEF) commercial programs have a combined budget of approximately $53 million to assist in evaluating and implementing energy saving measures. The CEEF's Energy Conscious Blueprint (ECB) program provides technical assistance and financial incentives to commercial building owners planning major renovations or replacing equipment that is near the end of its useful life. In 2010, the ECB program served 804 businesses throughout the state, saving the businesses $5.6 million per year in lower energy bills and reducing GHG emissions by 19,547 tons per year.[15]

The CEEF's Energy Opportunities program (which focuses on businesses that want to retrofit or replace equipment with at least 25 percent of its useful life remaining) provides a range of financial incentives, including zero-percent or low-interest financing for the commercial projects. The Energy Opportunities program served 1,355 businesses in 2010, saving them $13 million annually and reducing GHG emissions by 42,654 tons a year.[16]

Finally, the CEEF's Operations and Maintenance and Retro-Commissioning programs provide technical assistance and financial incentives to help customers identify and implement energy saving opportunities involving operational improvements and repairs to existing equipment.[17] All of these programs are slated to be ramped up significantly moving forward. Annual funding for the CEEF's commercial programs is scheduled to increase from $53 million to $120 million.

At the federal level, the 2005 Energy Policy Act (EPACT) provides tax breaks for companies investing in energy efficiency improvements. Commercial building owners can take a federal tax deduction of up to $1.80 per square foot of the building's floor area if they install measures that reduce energy costs. Qualifying installations include interior lighting systems, heating, cooling, ventilation, hot water systems or improvements to the building envelope. The deduction is allowed for both new construction and remodeling and the building must be placed in service between 2006 through 2013. To receive the full $1.80 deduction, energy costs must be reduced by at least 50 percent when compared to a reference building. Partial deductions are allowed for efficiency improvements less than 50 percent.

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[13] Lawrence Berkeley National Laboratory, "The Value of Energy Performance and Green Attributes in Buildings: A Review of Existing Literature and Recommendations for Future Research. September 7, 2011.
[14] Lawrence Berkeley National Laboratory, "The Value of Energy Performance and Green Attributes in Buildings: A Review of Existing Literature and Recommendations for Future Research. September 7, 2011.
[15] "Connecticut's Investment in Energy Efficiency," 2010 Report of the Energy Efficiency Board (March 1, 2011), p. 19.
[16] "Connecticut's Investment in Energy Efficiency," 2010 Report of the Energy Efficiency Board (March 1, 2011), p. 21.
[17] "Connecticut's Investment in Energy Efficiency," 2010 Report of the Energy Efficiency Board (March 1, 2011), p. 22.

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Private Capital Opportunities

There is also a huge untapped potential for increasing private investment in energy efficiency work throughout the country. A recent report by Capital E estimated that energy efficiency financing is currently only one-fifth of its cost-effective potential and has the opportunity to increase from its current $20 billion level to $150 billion over the next ten years.

"Open-Market" Commercial PACE. Recent innovations in Property Assessed Clean Energy financing programs increase opportunities to fund commercial projects. In October, the County of San Francisco launched a $100 million GreenFinanceSF-Commercial program.[18] Under that program, commercial building owners negotiate an energy-efficiency financing package with a private lender. Once that financing has been arranged, the city sells a bond to the financing entity, which is repaid through a tax lien on the subject property.

Energy Service Companies. An attractive option to provide energy efficiency improvements to large buildings is the Energy Performance Contracting model implemented by Energy Services Companies (or ESCOs). Under this model, an ESCO evaluates the energy saving opportunities in a building and calculates the monthly cost-savings associated with the energy improvements. The ESCO arranges the financing for the improvements itself, guarantees a minimum level of savings for the building owner and contracts to split the energy savings with the building owner for a set period of time (usually five to ten years).

This is a model that has been widely used in the MUSH market[19], but it presents a real opportunity for large private commercial buildings as well.[20] Recognizing the inherent advantages of ESCO contracting, the Building Owners and Managers Association International (BOMA) has partnered with the Clinton Climate Initiative to develop an innovative Energy Performance Contract Model designed specifically for the commercial building sector. The ESCO industry grew 1.6 percent in 2010 and the total energy management services market is expected to reach between $50 billion and $66 billion by 2017.[21]

This approach can serve to overcome the existing barriers to investing in energy efficiency in large commercial buildings. First, even though energy efficiency improvements typically have relatively short payback periods, they may not meet the strict return on investment (ROI) time horizons sought by a building owner. As a result, capital that could improve the energy performance of a building goes to other purposes. With an ESCO providing the capital for improvements and the building owner sharing in the benefits, the situation becomes a win-win for the building owner.

Even if the energy costs are borne by the tenant and not the building owner (the split incentives problem), improving the efficiency of a building will make that property more attractive to potential tenants and provide a competitive advantage in the marketplace

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[18] http://pacenow.org/blog/wp-content/uploads/10.13.11-GreenFinanceSF-Commercial1.pdf

[19] The "MUSH" market includes municipal and state governments, universities and schools, and hospitals.

[20] Because ESCOs generally seek projects with annual energy costs of $300,000 or more, this model will likely only be applicable to large commercial buildings. However, building owners might consider aggregating smaller projects into a single contract to create the necessary scale.

[21] "Energy Services Sector Sustained by 'MUSH' Markets," William Pentland. Forbes (January 11, 2011) **VERIFY MARKETS REPORT; "Spending on Building Energy Efficiency to Boom in Next 15 Years," Tilde Herrera (November 29, 2011). http://www.greenbiz.com**

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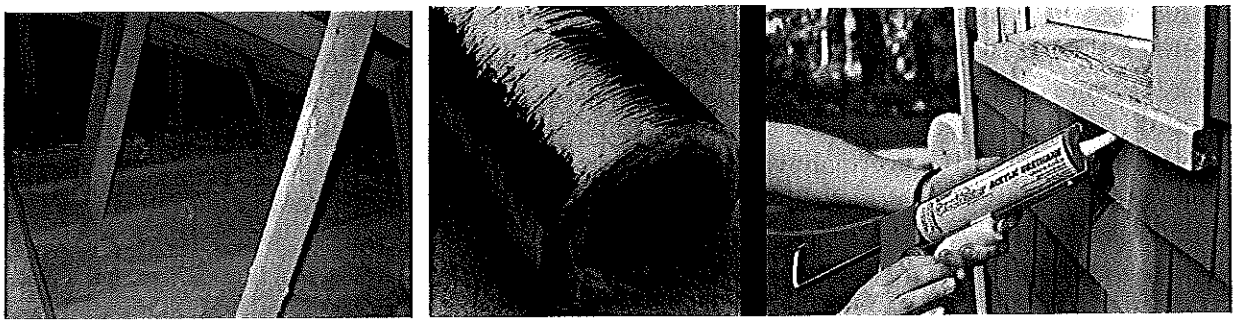
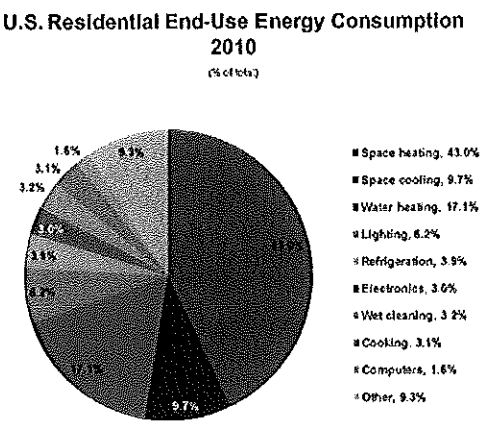
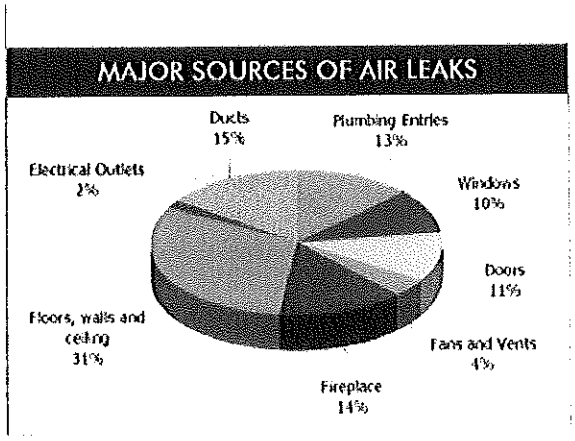


Energy disclosure policies for the residential and commercial real estate markets will help the budgets of Connecticut's families, improve the value of the state's building stock and strengthen the real estate market.

The residential sector presents a significant opportunity to improve energy efficiency and reduce greenhouse gas emissions. The state's housing stock is relatively old and much of it was built prior to the adoption of any building energy code. 84 percent of the state's housing stock was built before 1980 and 45 percent was built before 1960. Homes built prior to the adoption of energy codes use approximately 23 percent more energy per square foot than homes built after 1990.[22] The Pew Center for Global Climate Change estimates that only 40 percent of U.S. homes are well insulated.[23] Given that these residential buildings alone account for more than 20 percent of the state's greenhouse gas emissions, we must improve their energy performance if we wish to reduce emissions from the building sector in a meaningful way.

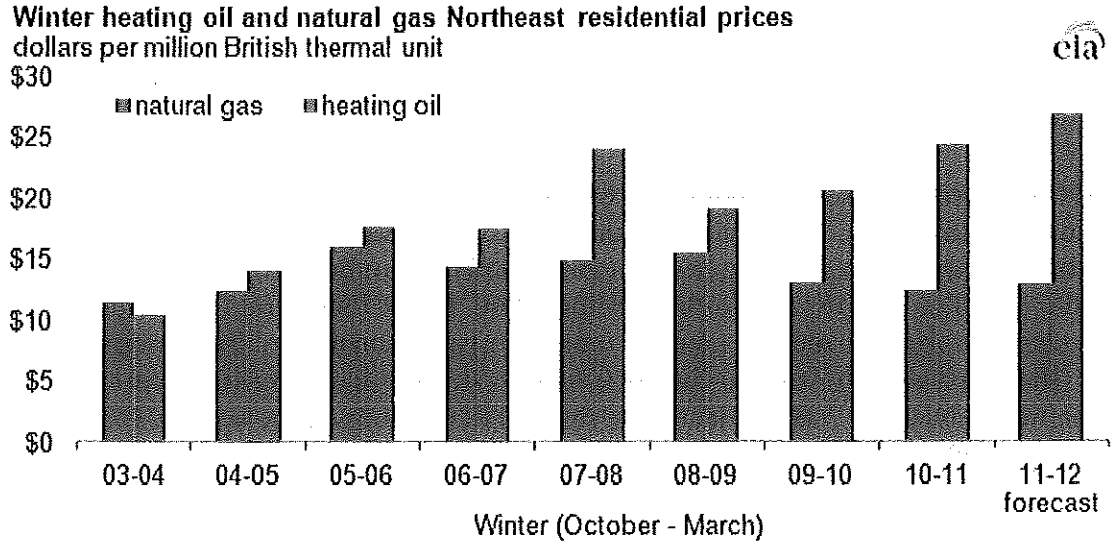




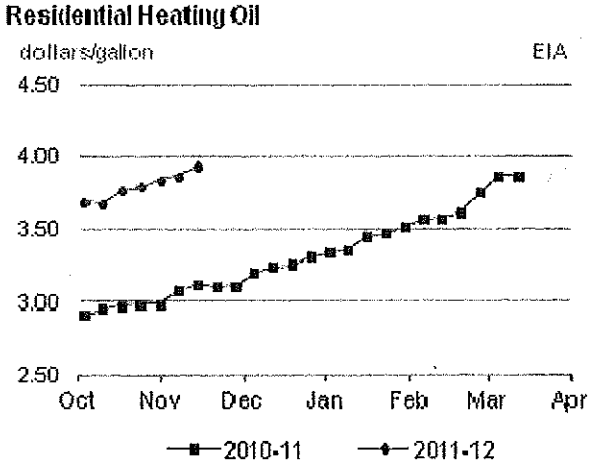
Beyond the climate benefits, however, addressing the efficiency of our aging housing stock is critical to temper the impact of rising energy costs on family budgets. New England has the

[22] "Residential Energy Efficiency and the American Clean Energy and Security Act", David Hoppock and Jonas Monast (Duke University July 2009).
[23] "Residential Energy Efficiency and the American Clean Energy and Security Act", David Hoppock and Jonas Monast (Duke University July 2009).

highest residential energy consumption per household in the United States.[24] In 2005 annual average energy costs in the Northeast were $2,319 per year.[25]
The average price paid by households in the Northeast for heating oil has more than doubled over the last seven winters, rising from an average of $10.48 per MMBtu ($1.45 per gallon) during the winter of 2003-04 to an average of $24.39 per MMBtu ($3.38 per gallon) during the winter of 2010-11.[26] In October, the Energy Information Agency predicted that average retail fuel oil prices will be 10 percent above last year's record-setting levels, although as the chart below indicates, prices are already above that in Connecticut. If current trends constitute, heating oil could reach an unprecedented $5 a gallon.



Source: EIA (October 12, 2011)



Source: U.S. Energy Information Administration, Heating Oil and Propane Update (November 16, 2011)

[24] National Association of Realtors, 2005 Residential Energy Consumption Survey.
[25] National Association of Realtors, 2005 Residential Energy Consumption Survey
[26] "EIA Projects Record Winter Household Heating Oil Prices in the Northeast" (October 12, 2011) Available at http://www.eia.gov/todayinenergy/detail.cfm?id=3450#?src=email.

Anticipated record prices for heating oil could not come at a worse time for Connecticut homeowners. At a time when households are struggling to meet household expenses due to the sluggish economy and continuing high unemployment, federal assistance for heating oil through the Low Income Home Energy Assistance Program (LIHEAP) is likely to be reduced by at least 25 percent.[27]

Benefits to the Residential Real Estate Market

Providing the transparency and information necessary to allow the market to appropriately value energy efficiency in real estate transactions will help move properties, since lowering the operating costs of a home (i.e., the energy costs) may help to temper the impacts of recent mortgage requirements requiring higher down-payments in a restricted credit environment.

While there may be some concern that the adoption of an energy rating requirement could negatively impact an already depressed housing market, the existing evidence suggests the contrary. A 2010 study of the Dutch housing market (where residential energy certification has been in place since 2008), indicates that sellers view the energy certification as an opportunity to differentiate their property, particularly in those areas where the market conditions are toughest.[28] The study also found that energy efficient homes received a price premium along the spectrum of results, with the most efficient homes receiving a premium of 12.1 percent over the least efficient homes and homes receiving the second lowest rating commanding a 1.8 percent premium over the lowest rated homes.[29]

A 2009 study of the housing market in Portland, Oregon and Seattle, Washington, found an average sales price premium of 3 percent to 5 percent (Portland) and 9.9 percent (Seattle) for

[27] American Gas Association, LIHEAP Funding Update FY 2012 available at http://www.aga.org/our-issues/liheap/Pages/default.aspx#fy12.
[28] RICS Research, "On the Economics of EU Energy Labels in the Housing Market," June 2010, p. 17.
[29] RICS Research, "On the Economics of EU Energy Labels in the Housing Market," June 2010, p. 21

energy certified homes.[30] Moreover, the homes in Portland sold an average of 18 days faster than non-certified homes.[31]

Finally, a 2008 study by the Australian government of home sales in 2006 found that homes sold for a 1.9 percent premium for each point on the ten-point Australian Energy Efficiency Rating system.[32]

These findings support the results of an earlier consumer survey conducted by the U.S. Green Building Council and McGraw Hill Construction. Among the results of that 2008 survey were that 70 percent of homebuyers are more inclined to buy a green home over a conventional home in a down market and that improving the energy and environmental performance of their home was the leading reason that homeowners invested in home improvements.[33]

With respect to the real estate market itself, research has found that for every $1 in annual energy savings home value increases by $20.[34] Generally, "energy efficiency increases home value by an amount that reflects annual fuel savings discounted at the prevailing after-tax mortgage interest rate."[35] Because this study assumed constant energy prices and modeled interest rates as falling between 4 percent and 10 percent, it is likely that energy efficiency would create even more home value under current market conditions.

Recognizing the financial advantages that energy efficiency can provide to both homebuyers and sellers, real estate professionals are starting to focus their attention on efficiency programs. Prudential Connecticut Realty is at the forefront of this effort in establishing a partnership with a local home performance contracting company, Victory Energy solutions. In Portland, Oregon, Liberty Mutual is offering a preferred homeowner insurance rate (up to a 10 percent discount) for high performing homes.

Potential impact

According to 2008 Maryland Home Performance with Energy Star energy improvement statistics, the average Maryland homeowner who invests $4,200 on energy improvements can reduce his or her home's energy usage by about 19%.[36] A variety of simple, common cost-

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[30] Lawrence Berkeley National Laboratory, "The Value of Energy Performance and Green Attributes in Buildings: A Review of Existing Literature and Recommendations for Future Research." September 7, 2011.

[31] Lawrence Berkeley National Laboratory, "The Value of Energy Performance and Green Attributes in Buildings: A Review of Existing Literature and Recommendations for Future Research." September 7, 2011. The certified homes in Seattle sold slightly more slowly than comparable non-certified homes, but they did command a substantial price premium.

[32] Lawrence Berkeley National Laboratory, "The Value of Energy Performance and Green Attributes in Buildings: A Review of Existing Literature and Recommendations for Future Research." September 7, 2011.

[33] "Home Buyers Increasingly Thinking about Buying Green" (July 24, 2008). 42 percent of respondents cited this as their primary reason, compared to 34 percent who cited improving comfort and 24 percent who cited improving appearance

[34] Rick Nevin and Gregory Watson, "Evidence of Rational Market Valuations for Home Energy Efficiency," The Appraisal Journal (October 1998).

[35] Rick Nevin and Gregory Watson, "Evidence of Rational Market Valuations for Home Energy Efficiency," The Appraisal Journal (October 1998), p. 409.

[36] Maryland Energy Administration, Maryland Home Performance with Energy Star Program.

effective measures can significantly reduce energy demand. Examples of typical reductions for a particular measure include:

Air sealing (Insulation/window replacement)	20%
Duct Repair and sealing	15%
HVAC equipment upgrades	20%
Lighting and appliance upgrades	10%

An analysis focusing specifically on fuel oil performed by the American Council for an Energy Efficient Economy has found that cost-effective efficiency measures for existing residential buildings can reduce oil consumption by 36 percent or 209 gallons of fuel oil per year.[37] Recently, the Department of Energy found that the weatherization services provided through the ARRA funding saved families an average of over $400 in the first year.[38]

Opportunities for financial assistance for upgrades

Through the Connecticut Energy Efficiency Fund, the state currently offers homeowners comprehensive energy audit and core service efficiency improvements at a subsidized rate of $75. The state and the CEEF should consider opportunities to use existing programs to further reduce costs to homeowners. Connecticut's current budget for residential energy efficiency programs in the state is approximately $45 million. With roughly 17,000 residential real estate transactions per year, the total cost of the program to offer free audits tied to a home-sale would be between $1.7 and $5.1 million per year, depending on the price point of the audit (CEEF currently offers free audits to low-income residents). This figure is quite reasonable in light of the CEEF program's anticipated increase in annual residential funding from $34 million to $72 million. The state should consider using the current energy efficiency funds to support delivery of energy audits tied to real estate transactions.

Additionally, after successfully completing a year-long energy efficiency loan pilot, Connecticut has rolled out a permanent energy efficiency loan product administered through the Connecticut Housing Investment Fund (CHIF), a private non-profit organization. The HES loan program is currently funded by ratepayer funds (for CL&P customers) and utility capital (for UI customers) and currently offers on-bill payment for loans (all loans made to United Illuminating customers are repaid on the bill; CL&P customers have the option of repaying on the bill).

CHIF also administers the state's income-limited Energy Conservation Loan program, which is funded through state bonding and revolving loans, and that provides zero-interest loans to qualifying borrowers.

In addition to the state incentives, federal incentives programs are available. The Energy Star Tax Credit provides a credit of 10 percent of the cost of the energy improvements up to a total of $500, and the federal government has recently unveiled its new Power Saver loan guaranty program, which is designed to provide low interest financing for home energy improvements.

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[37] "Reducing Oil use Through Energy Efficiency: Opportunities Beyond Cars and Light Trucks," ACEEE January 2006

[38] Hendricks, Bracken and Jorge Madrid, "A Star Turn for Energy Efficiency Jobs" (Center for American Progress, September 2011).

Building Energy Disclosure Laws Push Companies to Hire

Small Businesses Staffing Up as Energy Benchmarking and Disclosure Rules Spur Demand for Energy Efficiency

By Amanda Kolson Hurley and Andrew Burr

Bucking bleak hiring statistics that point to a stalling national recovery, many businesses in the energy efficiency sector are expanding their payrolls as local governments roll out new energy benchmarking and disclosure regulations for commercial buildings.

Those rules, many of which take effect this year, will allow consumers to access comparative energy performance information for tens of thousands of buildings in major cities and states. As a result, the appetite for energy efficiency solutions among commercial building owners and managers is growing swiftly, according to small business leaders.

Ecological, a sustainability services firm based in New York City, doubled in size and added approximately 400 clients over the past 12 months thanks to the city's benchmarking and disclosure law, which takes effect in August. Sustainable Real Estate Solutions (SRS), a building performance assessment and benchmarking software solutions firm in Connecticut, has increased its client base by more than 30 percent and hired additional account management staff as a result of the New York City law. Business at BuildingWise, a Bay Area sustainability consulting firm, is also up by more than 30 percent as San Francisco prepares to implement a similar law. Companies in other jurisdictions where benchmarking and disclosure policies have passed – Washington, D.C., Seattle, Austin, Texas, and the states of California and Washington – are anticipating similar growth opportunities.

"The magic hand of capitalism will start to work if information about buildings is known to the building owners and to the tenants," said Elton Sherwin, senior managing director of Ridgewood Capital, a venture capital firm headquartered in Silicon Valley that invests in clean energy technologies. "I tell our green startup companies to focus on San Francisco or New York City, because that's where the action is going to be."

Benchmarking provides building owners and operators with a numeric rating or other comparative metrics on building energy performance. All of the jurisdictions with benchmarking laws have specified the use of the U.S. Environmental Protection Agency's Energy Star Portfolio Manager software, a free benchmarking tool available online.

New York City's law, part of the *Greener, Greater Buildings Plan* developed by Mayor Michael R. Bloomberg to reduce energy consumption in buildings, requires annual energy and water benchmarking for large commercial and multifamily residential buildings, as well as the annual public disclosure of benchmarking information on a city web site. Affecting approximately 16,000 properties, area businesses say the law has jump-started demand for benchmarking and other energy efficiency services.

The law is a "great way for us to go to the folks who are already primed for what we're doing," said Jeffrey Perlman, founder and CEO of Bright Power, a New York City-based energy consulting firm, and CEO of EnergyScoreCards Inc., a Bright Power subsidiary that sells energy benchmarking and management software and is benefiting directly from the benchmarking and disclosure law.

"When clients get their benchmarking results, they start asking questions – 'Why did my building get this score and what can I do to improve it?'" said Lindsay Napor McLean, chief operating officer and executive vice president of Ecological. "Buildings with poor results really want to see what they can do to change those results before they're published."

That is exactly the sort of market reaction that city officials envisioned when the law was developed, and evidence that New York City's building energy efficiency policies -- which also include energy audits, retro commissioning, lighting upgrades and sub metering -- can cut consumer energy costs, create jobs and save energy, said Hilary Beber, senior policy analyst in the New York City Mayor's Office of Long-Term Planning and Sustainability.

As the *Greener, Greater Buildings Plan* is fully implemented over the next decade, "the demand for energy auditors, retro-commissioning experts, electricians, and energy managers will continue to grow," Beber said.

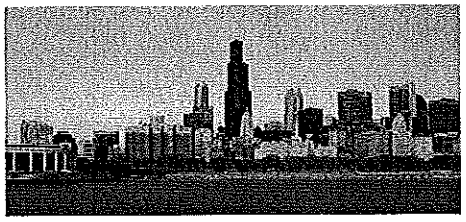
Even without a suite of additional energy efficiency policies like in New York City, businesses say that benchmarking and disclosure laws are an important driver of permanent job growth. According to Barry Giles, CEO of BuildingWise, benchmarking is a first step that primes the pump for energy efficiency upgrades and operational improvements, which will lead to even more opportunities for businesses like his own. "Benchmarking is a "small step in learning more about the building," he said, that creates "the potential for saving money over a long period of time and increasing the building's value" if the owner takes additional actions.

Ecological said it would continue adding employees as New York City's benchmarking and disclosure law creates demand for building energy improvements, a familiar expectation among businesses.

"Market evidence continues to mount that benchmarking and disclosure regulations are achieving their public policy goal to stimulate commercial building owners and managers to further invest in energy efficiency," said Brian J. McCarter, CEO of SRS. "An industry best practice is emerging in markets with disclosure regulations, where the first step is a desktop benchmarking analysis, followed by an onsite energy audit to identify improvement measures for poorly performing buildings."

Amanda Kolson Hurley is communications manager at the Institute for Market Transformation (IMT). Andrew Burr is director of the building energy rating program at IMT.

Commercial Real Estate: An Overview of Energy Use and Energy Efficiency Opportunities



Energy Use in Commercial Real Estate

Commercial real estate is any multi-family residential, office, industrial, or retail property that can be bought or sold in a real estate market. Energy use is the single largest operating expense in commercial office buildings, representing approximately one-third of typical operating budgets and accounting for almost 20 percent of the nation's annual greenhouse gas emissions.

By becoming more energy efficient, commercial real estate (CRE) organizations can reduce operating expenses, increase property asset value, and enhance the comfort of their tenants. They can also demonstrate their commitment to the environment by reducing pollution and the harmful greenhouse gas emissions that contribute to global warming.

Energy Efficiency Opportunities

Office buildings waste up to one-third of the energy they consume.

Low-Cost Measures

- Measure and track energy performance.
- Turn off lights when not in use or when natural daylight can be used.
- Set back the thermostat in the evenings and other times when a building is unoccupied.
- Educate tenants and employees about how their behaviors affect energy use.
- Improve operations and maintenance practices by regularly checking and maintaining equipment to ensure it is functioning efficiently.
- Optimize start-up time, power-down time, and equipment sequencing.
- Revise janitorial practices to reduce the hours that lights are turned on each day.
- Use ENERGY STAR Target Finder to integrate efficiency goals into the design of new properties.

Cost-Effective Investments

- Engage in energy audits and retrocommissioning to identify areas of inefficiency.
- Install energy-efficient lighting systems, ENERGY STAR qualified compact fluorescent lights (CFLs), light-emitting diode (LED) exit signs, and occupancy sensors where feasible.
- Install window films and add insulation or reflective roof coating to reduce energy consumption.
- Purchase energy-efficient products like ENERGY STAR qualified office and commercial food service equipment.
- Retrofit, upgrade, or install new heating and cooling equipment to meet reduced loads and take advantage of efficient technologies.
- Use a performance contract to guarantee energy savings from upgrades made.
- Work with an energy services provider to manage and improve performance.

Commercial Real Estate Organizations Making a Difference:

Transwestern Commercial Services, a national full-service real estate firm, has generated impressive returns through sound energy management. In 2006, Transwestern invested over $12 million in efficiency upgrades, for an average of 25 percent energy savings. The company estimates that dedication to energy management has increased the portfolio's value by at least $344 million. Transwestern also promotes awareness to its investors, employees, and tenants.

USAA Real Estate Company has made a long-term commitment to continuous improvement in energy performance The company estimates that it has increased its portfolio's asset value by more than $30 million and prevented 89 million pounds of carbon dioxide from entering the atmosphere. USAA has been awarded ENERGY STAR Partner of the Year recognition for the past five years.

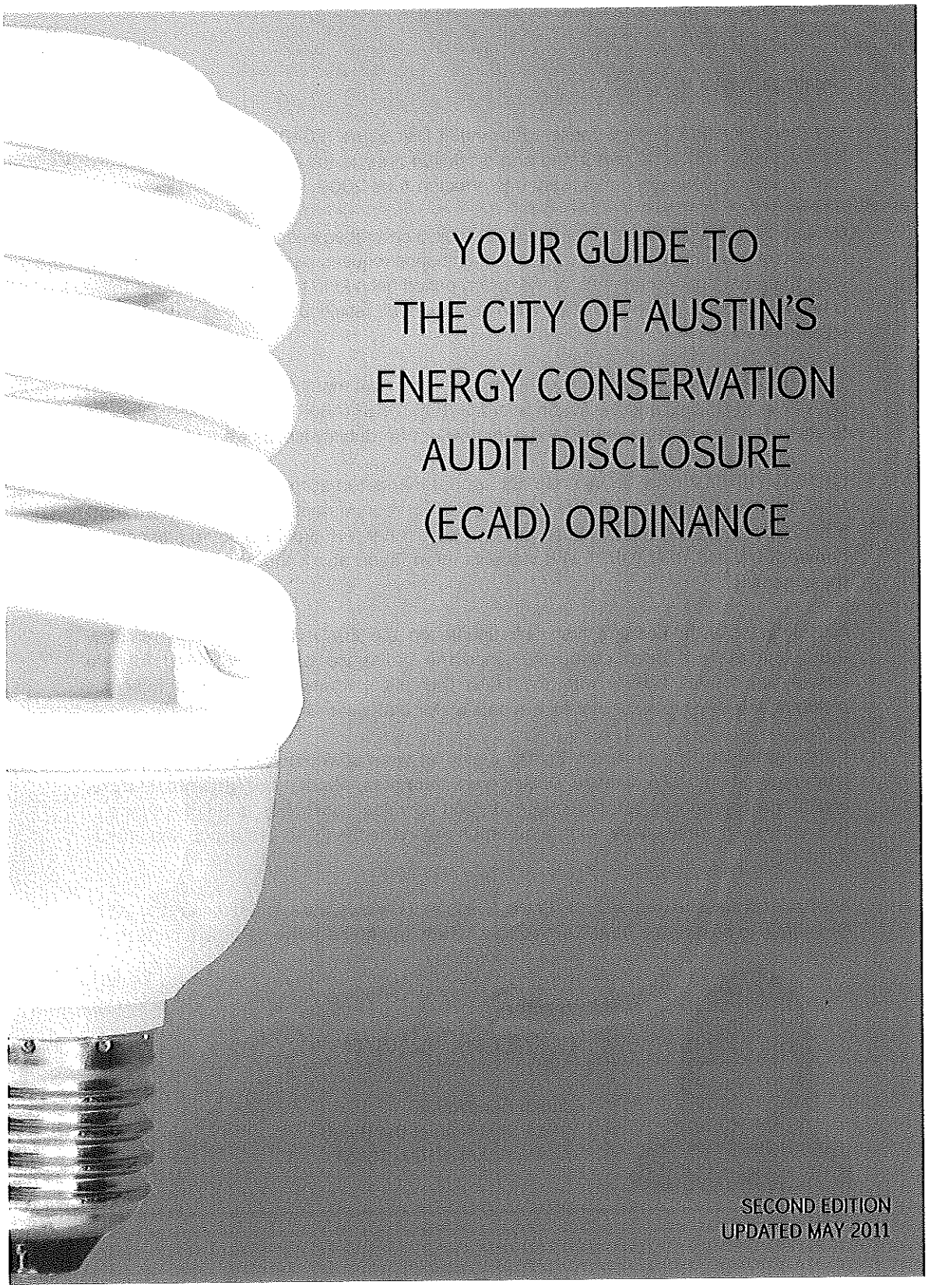
ENERGY STAR Offers:

- Guides and manuals
- Facility benchmarking
- Training
- Institutional purchasing
- Technical support
- Financing resources
- Emissions reporting
- Third-party recognition
- Motivational campaigns

How to Talk to Commercial Real Estate About Energy Efficiency

Speak to CRE practitioners in their own language. If you can explain that energy-efficiency improvements increase net operating income and asset value, this gives office building owners and managers a financial incentive to better manage energy consumption.

ENERGY STAR calculates that a 10 percent decrease in energy use could lead to a 1.5 percent increase in net operating income (NOI) — with even more impressive figures as the energy savings grow. In light of the current compression of capitalization ("cap") rates (net operating income divided by the sales price or value of a property expressed as a percentage), it is possible to turn pennies into millions.



YOUR GUIDE TO THE CITY OF AUSTIN'S ENERGY CONSERVATION AUDIT DISCLOSURE (ECAD) ORDINANCE

SECOND EDITION
UPDATED MAY 2011

Greetings, Austin REALTOR®,

The City of Austin's Energy Conservation Audit Disclosure (ECAD) Ordinance, which requires energy audits be performed and disclosed prior to the sale for many properties that lie within Austin city limits, went into effect in June 2009.

On April 21, 2011, the Austin City Council approved several amendments to the ECAD ordinance that went into effect May 2, 2011. One change requires audit results be provided at least three days prior to the end of the option period defined in the sales contract. If there is no option period, sellers are required to disclose audit results before the execution of the sales contract.

The ordinance was a collaborative effort that resulted from months of negotiation between City of Austin officials and the Austin Board of REALTORS® (ABoR). ABoR worked diligently to ensure private property rights and homeowner affordability issues were addressed.

Unlike the original plan, energy retrofits are not mandated at the point of sale with the ECAD Ordinance; however, homes meeting certain requirements must still have energy audits performed before a sale can be completed. Energy audits help equip prospective homeowners and REALTORS® with valuable information about the energy efficiency of these homes.

According to Austin Energy's first year update on the ECAD Ordinance, approximately 4,862 audits have been conducted since the ordinance went into effect. To help ensure your clients comply with the ECAD Ordinance, review the enclosed materials including the steps to a successful transaction for both seller's and buyer's agents.

I also invite you to visit Austin Energy online at **www.austinenergy.com/go/ecad** to learn more about the ordinance. Or visit **www.abor.com/about_abor/greenrealestate.cfm** to view green real estate information and download postcards and flyers that can help you reach out to clients with information regarding the ECAD Ordinance and energy efficiency.

ABoR will continue to work with the City of Austin as it reviews, revises and refines the ECAD Ordinance to ensure the REALTOR® voice is heard and homeowner rights are protected.

Sincerely,

Judith Bundschuh

Judith Bundschuh
2011 Chairman of the Board
Austin Board of REALTORS®

In the timeline below, review the challenges local real estate professionals and property owners faced and how ABoR worked to protect their interests when the City of Austin began its push toward the ECAD ordinance. ABoR continues to work closely with Austin Energy officials to establish a plan that helps protect our city's unique environment while ensuring homes remain affordable for Austin residents.

ECAD ORDINANCE TIMELINE

February 2007
MAYOR WYNN'S CLIMATE PROTECTION PLAN LAUNCHED

Austin Mayor Will Wynn released the Climate Protection Plan with the goal of making Austin the greenest city in the country. The plan includes a goal to "implement the most energy efficient building codes in the nation and aggressively pursue efficiency retrofits and upgrades to existing building stock."

December 2007
ENERGY EFFICIENCY UPGRADES TASK FORCE CREATED

Austin City Council Resolution No. 20071213-064 established the Energy Efficiency Retrofit Task Force to "make recommendations for development of an ordinance relating to energy efficiency upgrades and retrofits for existing homes and buildings." The language in the resolution bound the task force to enforcing energy efficiency mandates when a homeowner attempts to sell an existing home. That meant homeowners seeking to sell their property would have shouldered the financial burden of costly upgrades.

March 2008
ENERGY EFFICIENCY RETROFITS TASK FORCE AGREES ON AGGRESSIVE PROJECT CHARTER OBJECTIVES

The task force voted on a Project Charter in which all "protocols" (i.e. energy efficiency upgrades) would "be triggered at the point of sale." Notably, there was no discussion regarding alternative methods of achieving greater energy conservation beyond mandated upgrades at the time homes sold. The charter also called for two additional inspections: 1) an initial energy audit to identify necessary upgrades and 2) a confirmation that upgrades had been completed. These inspections would have been required before a home could sell.

April 2008
TASK FORCE CONSIDERS REQUIRING CERTIFICATE OF COMPLIANCE BEFORE SELLING HOME

The task force documents stated, "the specified improvements MUST be performed before the house is sold." The requirement was part of the initial framework that would have mandated upgrades and inspections before property transactions could take place. At that time, the cost of upgrades were intended to be capped at between one and three percent of the cost of the home, equating to thousands of dollars.

KEEPAUSTINAFFORDABLE.ORG LAUNCHES

The Coalition to Keep Austin Affordable, led by the Austin Board of REALTORS®, launched KeepAustinAffordable.org. The campaign and website were designed to inform Austin homeowners about the potential impact of the proposed "Point of Sale Ordinance." The goal was to support energy efficiency in Austin through positive means—such as strong incentives and consumer education—while supporting homeownership opportunities for Austinites.

May 2008
ABOR MAKES ALTERNATIVE PROPOSAL PRESENTATION TO CITY TASK FORCE

ABoR past chairman and Energy Efficiency Retrofit Task Force member Charles Porter presented an alternative proposal to fellow task force members to promote an energy efficiency plan that excluded expensive upgrades. ABoR proposed that broad disclosure, comprehensive incentives and extensive consumer education would lead to voluntary conservation amongst Austin's homeowners. ABoR's proposal would also prevent the damaging effects that a mandate would impose on the housing market.

June 2008
TASK FORCE CONSIDERS HYBRID PROGRAM THAT INCLUDES MANDATORY BACKSTOP

The Energy Efficiency Retrofit Task Force discussed a voluntary "energy saver home" program for Austinites, in which specific thresholds would have to be met in order to avoid mandatory energy-efficient upgrades at the point of sale. "If the [participation] targets are not met in any two consecutive years," said a task force draft document, "energy upgrades would automatically become mandatory." Because of its unrealistic goals, the plan incorporated a two-year waiting period before point-of-sale upgrades were mandated.

September 2008
TASK FORCE AFFIRMS RIGHT APPROACH TO MAKING AUSTIN HOUSING MORE ENERGY EFFICIENT

The 28-member task force overwhelmingly opposed mandatory retrofits for existing homes at the point of sale and was unanimously in favor of a program that closely resembled the proposal made by ABoR in May.

November 2008
CITY COUNCIL VOTES

The Austin City Council approved a city task force's recommendation requiring Austin homeowners to have energy audits completed before selling their homes. ABoR advocated for and supported this vastly different outcome from the task force's original charge.

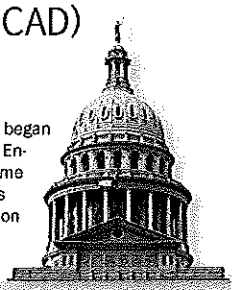
June 2009
ECAD ORDINANCE GOES INTO EFFECT

Please visit **www.abor.com** for the most recent information.

May 2, 2011

Amendments to the ECAD Ordinance go into effect. A collaboration between Austin Energy and ABoR, the amendments require energy audits be disclosed no later than 3 days prior to the end of the option period defined in the sales contract. The amendments also address energy audit requirements for condominiums, which were excluded from the original ordinance. ABoR continues to work with Austin Energy to help Austin achieve its energy conservation goals.

ENERGY CONSERVATION AUDIT DISCLOSURE (ECAD) ORDINANCE OVERVIEW



With the passage of the Climate Protection Plan in February 2007, the City of Austin and Austin Energy began addressing issues involving energy efficiency. To alleviate the pressure of growing demand from Austin Energy's service area, the City of Austin intended to mandate energy efficiency upgrades at the time a home was sold. In response, the Austin Board of REALTORS® (ABoR) worked to address private property rights and homeowner affordability issues surrounding proposed mandates at the point of sale. The timeline on the following page documents the series of events leading to the current ECAD Ordinance.

FACTS ON THE ECAD ORDINANCE

WHAT IS REQUIRED UNDER THE ORDINANCE?

Homeowners selling their homes in Austin are required to obtain a specialized audit–the ECAD audit–and to disclose the findings of that audit as part of their regular seller's disclosure notice.

WHAT IS AN ECAD AUDIT?

The ECAD audit is a specialized energy audit that examines four primary areas in a home: (1) Heating and cooling system (HVAC) efficiency; (2) Air infiltration: duct performance, air sealing in plumbing areas and weather stripping; (3) Windows: shading, low "E" glass and solar screens; (4) Attic insulation.

WHO DOES THIS AFFECT?

Homeowners with properties that lie within the Austin city limits that are serviced by Austin Energy and more than 10 years old are affected by the ordinance.

WHO WILL CONDUCT THE AUDITS?

ECAD audits will be conducted by professionals who have been certified by either the Residential Energy Services Network (RESNET) or the Building Performance Institute and who are registered with Austin Energy as approved contractors for this program. A list of registered energy audit professionals can be found online at **www.austinenergy.com/go/ecad.**

HOW MUCH DOES AN ECAD AUDIT COST?

For a typical single-family home with 1,800 square feet or less and a single air conditioning system, the estimated cost of an ECAD audit ranges from $200 to $300. However, auditors set their own prices, which are dependent on the size of the home.

WHEN DOES THE AUDIT NEED TO BE COMPLETED?

The energy audit is required as a part of the seller's disclosure. It must be completed and disclosed no later than 3 days prior to the end of the option period defined in the sales contract. If there is no option period, the audit must be disclosed prior to execution of the sales contract. Austin Energy and ABoR encourage homeowners seeking to increase their energy efficiency and save money on the high cost of utility bills to have an energy efficiency audit conducted before thinking of selling their homes. Early audits may help homeowners identify possible areas of improvement and could help prevent last minute scrambles should a homeowner decide to sell the property at a later date.

HOW LONG DO THE AUDITS LAST?

Each ECAD audit will be good for 10 years under the current ordinance rule.

ARE THERE ANY EXEMPTIONS?

Yes, several. Properties that are fewer than 10 years old, as well as properties that are in foreclosure or pre-foreclosure are exempt. Properties subject to eminent domain, transactions between family members and properties under court order, in probate proceedings or under decree of legal separation or dissolution of marriage are all exempt. In addition, manufactured homes designed for use without a permanent foundation and properties owned by participants in designated Austin Energy Electric Utility programs or buyers who agree in writing to participate in these programs within six months are also exempt. Learn about which properties are exempt from the ECAD Ordinance by visiting Austin Energy's website at **www.austinenergy.com/go/ecad.**

This flyer can be found in PDF format on
www.abor.com/pdf/energy_flyer_final.pdf.
Download and share with your clients today!

Whether you represent a homebuyer or home seller, following these easy steps will ensure a smooth transaction for any property affected by the City of Austin's ECAD Ordinance.

Steps to a Successful Transaction for Seller's Agents:

- ☐ Discuss ordinance specifics and the need for an audit at your initial listing appointment. Agents can also provide their client(s) with a copy of Austin Energy's Guide for Homebuyers, Home Sellers and Homeowner and discuss the available Austin Energy incentives that can help homeowners meet the ECAD requirements. Download this guide today by visiting Austin Energy's ECAD website at **www.austinenergy.com/go/ecad.**
- ☐ Offer your clients contact information for three to five energy auditors. The names of the Austin Energy approved auditors may be found at **www.austinenergy.com/go/ecad.**
- ☐ The chosen auditor will set an appointment with your seller. He or she will arrive on site to conduct the audit, which will take about two to three hours.
- ☐ The auditor will leave an audit certificate with the seller for use as an attachment to the Seller's Disclosure Notice. If you are using ABoR's Sellers Disclosure form, the seller can indicate the audit was completed and is attached as per ordinance rule in Paragraph 9 and again in Paragraph 14.
- ☐ The audit must be conducted and disclosed no later than 3 days prior to end of the option period defined in the sales contract. If there is no option period, the audit must be conducted and disclosed prior to execution of the sales contract. To simplify the selling process, it is best to complete the audit while the seller is preparing the property for sale, before there is a contract on the home.

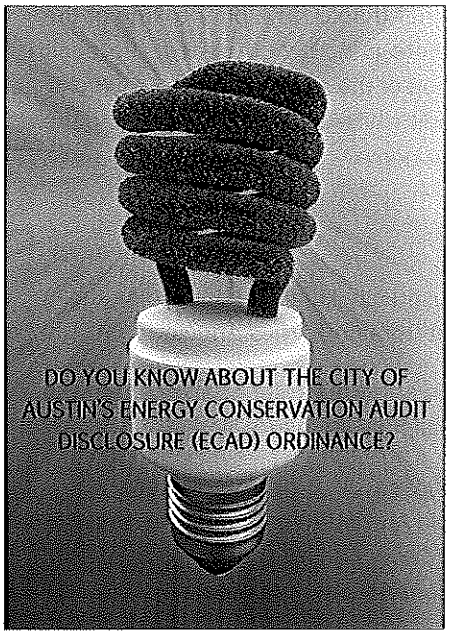
Steps to a Successful Transaction for Buyer's Agents:

- ☐ If your client is looking for property within the Austin city limits, ensure he or she is aware of the ordinance and knows what to expect from properties affected by it.
- ☐ Should your clients choose a home that requires an ECAD audit, make certain the seller has included the audit certificate in their Seller's Disclosure Notice.
- ☐ Provide your client(s) with a copy of Austin Energy's Guide for Homebuyers, Home Sellers and Homeowners and discuss the available Austin Energy incentives that can help homeowners meet the ECAD requirements. Download this guide today by visiting Austin Energy's ECAD website at **www.austinenergy.com/go/ecad.**

RESOURCES ON ABoR.COM

A new page has been added to the "About ABoR" section of **Abor.com**. Here you'll find our Green Real Estate page, which houses information on green building, energy efficiency and the role "green" will continue to play in the real estate industry. Studies show consumers consider energy efficiency, a key green building feature, an important consideration when buying a home. ABoR supports efforts to encourage energy conservation because we understand the important role rising energy costs play in homeownership. We also know that energy conservation is key to protecting Austin's unique environment.

In this new section of our website, you will find the customizable marketing pieces pictured here. With only a few keystrokes, these materials can be branded with your company's contact information and sent to customers. They may also be downloaded and professionally printed for distribution as direct mail pieces. Both marketing pieces contain important information on the ECAD ordinance and will help agents underscore the importance of using a REALTOR® to maneuver through the ECAD Ordinance requirements.



The City of Austin's Energy Conservation Audit Disclosure (ECAD) Ordinance requires some home sellers to have their property audited for energy efficiency and disclose the results prior to sale (no later than 3 days prior to the end of the option period) if the home is within the Austin city limits and serviced by Austin Energy. Ensure a smooth transaction by following these simple tips:

1. **Contact a REALTOR®.** Your REALTOR® understands the ECAD Ordinance and can help you satisfy the audit requirement quickly and efficiently.
2. **Ask about the ordinance.** As a real estate expert, your REALTOR® can tell you whether your home requires an audit, how much you can expect to pay and other important information.
3. **Find an ECAD auditor.** Specially trained auditors know just how to assess the energy efficiency of your home. Only a certified auditor registered with Austin Energy can issue a recognized energy audit. Contact your REALTOR® for details on finding an approved auditor.

[Company Name]
[Company Address]

[Tag Line - i.e. Call Me Today]
[phone number | website/email address]

THE CITY OF AUSTIN'S ENERGY CONSERVATION AUDIT DISCLOSURE (ECAD) ORDINANCE HERE'S WHAT YOU NEED TO KNOW

As Austin's population has increased, so has the demand for Austin Energy's services. The Climate Protection Plan was passed in February 2007 with the goal of increasing energy efficiency. Originally, the plan consisted of mandating costly energy efficient upgrades at the time a home was sold. The Austin Board of REALTORS® (ABoR) worked with City of Austin officials to limit the mandatory components of the ECAD Ordinance. The revised plan will help reduce energy consumption while keeping Austin housing affordable.

WHAT IS REQUIRED?

Under the ECAD Ordinance, owners of homes that lie within the Austin city limits and are serviced by Austin Energy are required to obtain an ECAD audit and disclose the audit results to potential buyers prior to sale. As of May 2, 2011, audit results must be disclosed no later than 3 days prior to the end of the option period defined in the sales contract. If there is no option period, audit results must be disclosed prior to execution of the sales contract.

WHEN DID THE ORDINANCE GO INTO EFFECT?

The ECAD Ordinance went into effect June 1, 2009. Current disclosure requirements and amendments affecting condominiums went into effect May 2, 2011.

HOW DO I COMPLY?

The ECAD audit is required as part of the seller's disclosure notice. It must be completed and disclosed no later than 3 days prior to the end of the option period defined in the sales contract. If there is no option period, audits must be disclosed prior to execution of the sales contract. Homeowners interested in saving money on their utility bills and increasing their home's energy efficiency are encouraged have their homes audited before they consider selling, as early audits can pinpoint simple ways to increase a home's energy efficiency. Additionally, under the current ordinance each ECAD audit will be good for 10 years, so having your home audited now can prevent a last minute scramble to comply with the ordinance.

Download Austin Energy's Guide to Homebuyers, Home Sellers and Homeowners by visiting www.austinenergy.com/go/ecad and learn more about the available incentives from Austin Energy that can help homeowners meet the ECAD Ordinance requirements.

ARE THERE ANY EXCEPTIONS?

Yes. Properties in foreclosure or pre-foreclosure; properties subject to eminent domain; transactions between family members; and properties under court order, in probate proceedings or under decree of legal separation or dissolution of marriage are exempt. Additionally, properties fewer than 10 years old, manufactured homes designed for use without a permanent foundation and properties owned by participants in designated Austin Energy Electric Utility programs or buyers who agree in writing to participate in these programs within six months of the home purchase are also exempt.Your Central Texas REALTOR® can help you determine whether your home is exempt from the ECAD Ordinance.

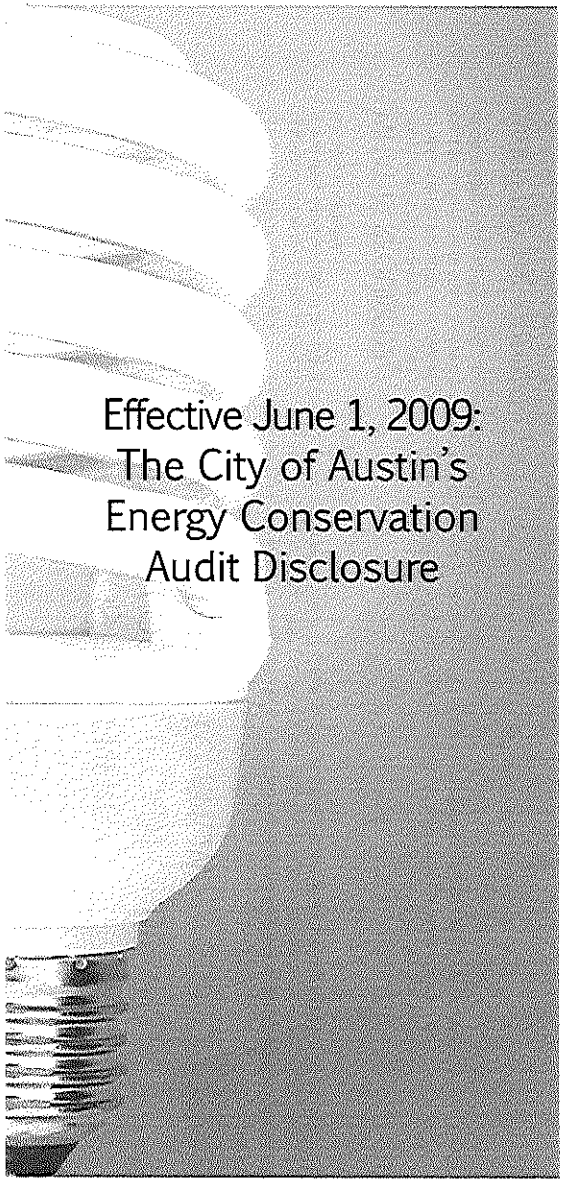
WHO SHOULD I CONTACT TO FIND AN AUDITOR?

Your REALTOR® can help you find an auditor with the proper credentials for conducting an Austin Energy approved audit. ECAD audits must be conducted by professionals who have been certified by either the Residential Energy Services Network (RESNET) or the Building Performance Institute and who are registered by Austin Energy as approved contractors for this program. If you would prefer to look for an auditor on your own, visit **www.austinenergy.com/go/ecad**.

When considering buying or selling a home, always contact your local REALTOR® first. REALTORS® abide by the National Association of REALTORS® (NAR) Code of Ethics and are equipped with the information and experience to guide you through your real estate transaction. With expert knowledge in marketing and negotiation, as well as a wealth of professional resources, your REALTOR® will add value to every step of your home sale or purchase.

[Company Name]
[Company Address]
[Phone Number] | [Fax Number] | [Website]

These pieces can be found in PDF format on
www.abor.com/about_abor/greenrealestate.cfm



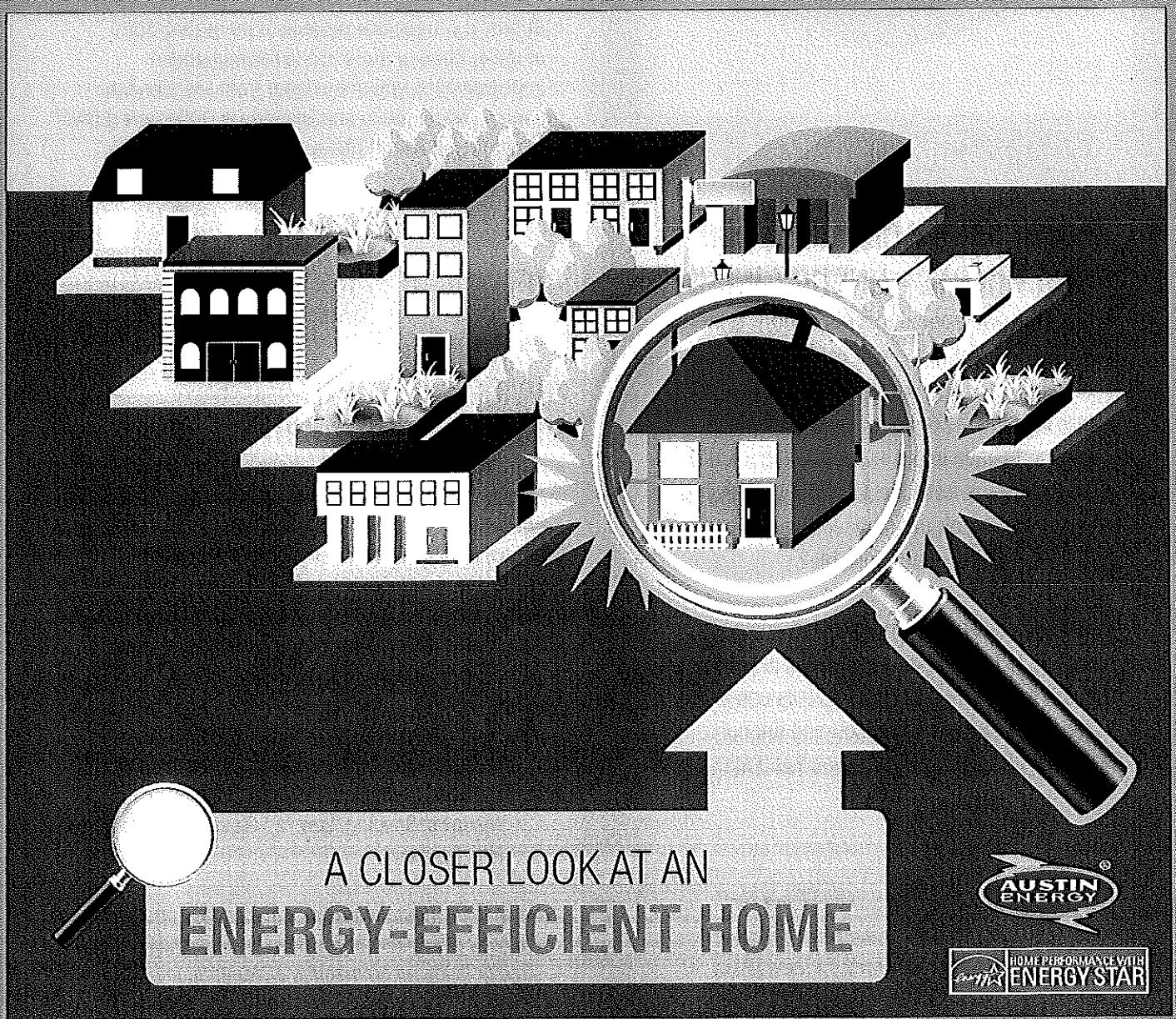
Effective June 1, 2009: The City of Austin's Energy Conservation Audit Disclosure

AUSTIN BOARD of REALTORS®

10900 Stonelake Boulevard
Suite A-100
Austin, Texas 78759

A GUIDE FOR

HOMEBUYERS, HOMESELLERS & HOMEOWNERS



A CLOSER LOOK AT AN ENERGY-EFFICIENT HOME

AUSTIN ENERGY®

HOME PERFORMANCE WITH ENERGY STAR

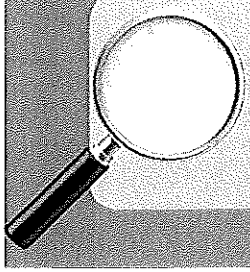
PLUS: HELP WITH REBATES, LOANS, ENERGY SAVINGS AND EXPERTISE.

YOUR HOME VALUE

WHAT IS THE CONDITION OF YOUR HOME – ENERGY-WISE?

The curbside appeal of a home adds a lot to its value, but what you don't see can be equally important. How high are the energy bills in August? Are you sneezing because the ducts have leaks in them that suck dirt and allergens from the attic into your living space? Is the air conditioner about to break down? Are you uncomfortable?

Whether buying, selling or living in a home, it pays to find out how efficient the home really is as early as possible. Bills can be reduced, comfort increased and financial incentives can be used to your advantage.



*Did you know **41 percent** of home sellers felt that an energy audit helped them sell their home?*

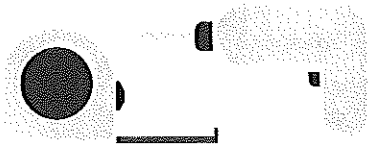
HOW TO GET STARTED

OPTION 1: GET A FREE ENERGY ANALYSIS

Home Performance with ENERGY STAR® participating companies offer a free energy analysis to homes 10 years old and older. This walk-through analysis can give you a good idea of what needs work and the cost. All of the participating companies understand how to work with the rebates offered by Austin Energy and Texas Gas Service to make sure you stretch your energy dollars.

Bonus: if you receive rebates of more than $500 or make three or more of the recommended improvements, you are exempt from the mandatory Energy Conservation and Disclosure Ordinance (ECAD) Audit (City of Austin Ordinance No. 20081106-047, June 2009).

OR



OPTION 2: GET AN ENERGY AUDIT

A multitude of options exist for energy audits, which involve testing the working parts of your home with specialized equipment. These audits are available at a cost, which is generally in keeping with the size of your house.

Home sellers are required by the City of Austin to have a specialized audit, the ECAD Audit, before a home 10 years or older is sold. This audit covers four basic areas:

A. Heating and Cooling System (HVAC) Efficiency
B. Air Infiltration: Duct Performance, Air Sealing in Plumbing Areas and Weatherstripping
C. Windows: Shading, Low "E" Glass and Solar Screens
D. Attic Insulation

Refer to the home improvement incentive chart found on the back of this insert for details on the incentives relating directly to the recommended ECAD Audit improvements.

REBATES ON KEY IMPROVEMENTS

A. HVAC: Rebates up to $600, Tax Credits up to $300 and Energy Savings up to $270 annually.

Your cooling system accounts for 60 – 70 percent of your summer electric bill. Year round, heating and cooling (HVAC) consumes more than half of the energy used by a household. If your HVAC equipment is more than 10 years old, replace it with an ENERGY STAR unit. Installed correctly, these high efficiency units can save 20 – 40 percent on cooling and heating costs.

B. Air Infiltration and Duct Sealing: Rebates up to $470, Energy Savings up to $120 annually.

In houses with central heating and cooling systems, air ducts are used to distribute conditioned air throughout the house. In a typical Austin house, 27 percent of the air that moves through the duct system is lost due to leaks and poorly sealed connections. This results in higher utility bills and difficulty keeping the house comfortable.

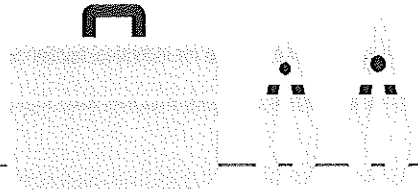
Obvious air leaks can occur around windows and entry doors. Others are hidden and require special equipment to find. Sealing these leaks will have a great impact on improving your comfort and reducing your utility bills.

C. Windows: Rebates up to $164, Tax Credits up to $200, Energy Savings up to $100 annually.

Low "E" glass windows have a special surface coating that blocks out 40 – 70 percent of the heat transmitted through clear glass, while allowing the full amount of light to pass through. Window films can block out 40 – 60 percent of heat, and solar screens can block out 60 – 70 percent of sunlight and heat. Austin Energy offers solar screen, solar film and Low "E" glass rebates of $1 per square foot.

D. Attic Insulation: Rebates up to $328, Tax Credits up to $500, Energy Savings up to $90 annually.

Insulation allows your house to resist heat flow. The greatest energy savings are achieved by adding attic insulation. The recommended insulation level for most attics is R-38 (or about 12 – 15 inches, depending on the insulation type). Most Austin attics have less than half of the needed insulation. Austin Energy and Texas Gas Service rebate one-third of the cost of additional attic insulation.



INFORMATION

Call 974-7827 or visit our web site, www.austinenergy.com, for more information about Austin Energy's products and services.

ABOUT REBATES & LOANS

Rebates and low interest loans are available through the Home Performance with ENERGY STAR program. Rebates average 21 percent of total cost, or $2,000, and save an average of 32 percent on summer electric bills. Loans, as low as zero percent, are available on energy efficiency improvements through Velocity Credit Union. If you are a Texas Gas Service customer, Austin Energy will send your application on to Texas Gas Service for rebates on attic insulation and duct sealing as well. Tax credits are also available on many of these improvements.

YOUR 2011 GUIDE TO ENERGY EFFICIENCY INCENTIVES

ECAD-QUALIFYING HOME IMPROVEMENT INCENTIVES	AVERAGE COST BEFORE REBATE	AVERAGE REBATE AE	AVERAGE REBATE TX GAS	PERCENTAGE OF TOTAL COST COVERED BY COMBINED REBATE
Home Performance with ENERGY STAR (HPES)® Rebates OR loans for all of the following efficiency improvements needed, as identified in an energy analysis: central air conditioner/heat pump, attic insulation, duct diagnostic and sealing, radiant barrier, efficient windows and solar screens. Plus **Weatherization bonus** for making all identified improvements.	$9576	$1713	$298	21%
SINGLE IMPROVEMENTS MADE UNDER THE HPES PROGRAM				
Air Conditioning/Heat Pumps ENERGY STAR labeled central air conditioners and/or heat pumps. Rebates start at 14 SEER/11.5 EER	$6773	$433	$75	8%
Reductions of Air Infiltration and Duct Sealing Duct sealing, weatherstripping around doors, preventing airflow through attic stairs and fans, caulking around plumbing holes	$678	$245	$156	59%
Advanced System Performance Testing Specialized testing of the entire air duct system for air leakage, adequate airflow and distribution	$365	$215		59%
Duct Replacement Replacement of existing ducts due to poor design, damage and deterioration	$1363	$130	$130	19%
Attic Insulation Upgrading attic insulation to R-38	$1157	$185	$185	32%
Solar Shading Solar screens, awnings, window film for sun-facing windows receiving direct sun on 40 percent or more of the glass for one hour or more.	$934	$137		15%
Radiant Barrier	$1245	$175		14%
Window Replacements Installation of Low "E" glass to replace existing standard glass windows.	$6708	$196		3%
Appliance Efficiency *(no energy analysis required)* Rebates on the purchase of these efficient technologies: ENERGY STAR air conditioners, ground source heat pumps, mini-splits, solar water heaters	Check www.austinenergy.com for individual appliance rebates.			

NOTE: *Figures are based on an estimate for the average single family house in Austin (1,800–2,000 sq. ft.) that has made improvements through an efficiency program by Austin Energy or Texas Gas Service.*

ADDITIONAL INCENTIVES FOR HOME IMPROVEMENT

SOLAR REBATES

Photovoltaic Rebates – Includes installation, warranty and 5-year maintenance. Average system size is 3kW. Limited rebates available at $2.50 per watt.

Solar Water Heaters – For electric water heaters only. Includes installation of rooftop system. Water is heated through rooftop piping system and stored in an electric water heater. Rebates: $1,500 new homes /$2,000 for existing homes.

TEXAS GAS REBATES – Gas Furnace Incentive ($75), high efficiency gas water heaters ($40) and tankless or super high efficiency water heater rebates ($300) are available for Texas Gas Service customers only. www.TexasGasService.com or call 370-8243

FREE PROGRAMS

Free Home Energy Work – Free materials and labor for these repairs: attic insulation, duct sealing, caulking, weatherstripping and solar shading for the income-qualified, elderly and disabled.

Refrigerator Recycling – Free pick up and recycling of standard-sized old working refrigerators and freezers. We pay $50 per working appliance. 1-800-452-8685

Free Gas Heaters – For Texas Gas Service customers (*income qualified*). 370-8243